AIR WAR COLLEGE

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AN AIR FORCE AT PEACE: ARE WE READY TO FIGHT AND WIN OUR NATIONS WARS?

by

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Preface

Competitive sourcing, formerly known as outsourcing, and privatization of non-critical military functions has become a way of life in the Department of Defense. All services now use these efficiency and cost saving measures with various degrees of success. In our modern Air Force, they represent a way of life that has been evolving for the last 20 years. Every Air Force installation has experienced the growing pains that have occurred because of these fundamental changes. However, the Air Force may have been forced down a road that will negatively impact its warfighting capability.

I thank my advisor, Colonel Hogan, for being exactly that—an advisor. His key insights and experience helped me put the emphasis on areas where I wanted and for that I am extremely grateful. Additionally, I offer my thanks to Major James R. Beamon who submitted this topic. It may not answer all of his questions but his research topic submission helped energize me.

Abstract

Competitive sourcing, formerly known as outsourcing, and privatization of key support activities has occurred or is underway on virtually every Air Force installation. The organizational make-up of fewer and fewer "blue suiters" represents the future of Air Force installations for the conceivable future. As the Air Force transitions to an Air Expeditionary Force, the effects of this new reality will begin to become clearer. Competitive sourcing and privatization resulted from declining military and civilian force structures, reduced Defense budgets caused by the changing world order, and the end of the Cold War. While the reason our service applies these tools is basically money, the continued implementation of them throughout the Air Force must be a very conscientious, deliberate process. If the tools are applied haphazardly, then a reemergence of the "hollow force" of the 1970's becomes a very real threat. Force modernization concerns, degrading infrastructures, high operations tempo, and personnel retention difficulties all point to potential serious issues for the Air Force.

The central theme of this paper is to investigate the impact competitive sourcing and privatization have had on the Air Force's ability to project and sustain itself in a wartime environment. To do this, the study will identify areas impacted and provide the author's assessment of how mission capabilities have been enhanced or degraded because of these contractual tools and answer the question: Is there an impact as we prepare to fight the war of the 21st Century?

Chapter 1

Introduction

Order or disorder depends on organization; strength or weakness on dispositions.

—Sun Tzu

The concept of privatization, indeed, outsourcing or competitive sourcing as it is now known has become a way of life for the United States' military establishment. These contractual instruments are tools that inspire the military member to seek out the most efficient method of conducting their day-to-day business. Why are the services even interested in doing business better? After all, if the military's role is to destroy the enemy, why do we care if we do it efficiently? What has driven the military to become obsessed with efficiencies? The simple answer is money!

Since the end of World War I, Americans have historically demanded a "peace dividend" at the conclusion of each and every war. The end to the Cold War is no different. As a result, the victory of the free world over the former Soviet Union resulted in a demand for cutbacks in defense spending. The cutbacks sought were roughly equivalent in magnitude to those experienced at the termination of earlier conflicts. After all, the United States no longer has the Soviet threat to build and maintain nuclear stockpiles against. In fact as a super power the United States stands alone—a great achievement, which may have brought unexpected costs with it. Among the challenges

of standing alone came the decision to "shape the forces" needed for defense. Paralleling the mass exodus from the service after the Vietnam War, the downsizing or "right sizing," as it was known, drastically and rapidly reduced the numbers of personnel regardless of service. The force structure has been reduced 36 percent since 1980. In addition to the shrinkage of the armed forces, the Defense Department also experienced the almost obligatory budget reduction. However, the resulting budget reduction was not a parallel one for one exchange but a two for one reduction of almost 60 percent in real buying power compared to 1985.¹

These reductions, felt by all services, created imbalances for which each service has struggled to develop strategies to accommodate the imbalances. Of serious concern to military experts and critics alike has been the "tooth-to-tail" ratio. The ratio in question compares the budget spent on the "tooth" which is the combat power of the American military, against the budget dollars of the "tail" which is the support portion which ensures the combat power can be applied and sustained as needed. The tooth-to-tail ratio, out of balance since the end of the Cold War, was of such major concern to Secretary of Defense Cohen that he instituted a commission to develop solutions. Specifically, the Tooth-to-Tail Commission was charged with finding "...ways to save money in the defense 'tail' portion of the budget...while shifting those savings to the 'tooth'—warfighting segment. That ratio, nearly a 50-50 balance at the end of the Cold War, has moved so that nearly 70 percent of the defense budget now goes toward support elements, said commission members." Numbers for the Department of Defense indicate that only 14 percent of the some 2.5 million members are officially listed in combat

positions (Table 1). The challenge is to become more efficient at supporting the warfighter—a doubly challenging prospect in light of the greatly reduced fiscal resources.

Table 1. What the People Are "Doing" (thousands) 3

Occupation	# of Civilians	# of Military	Total	Percent (%)
Maintenance/Repair	186	433	619	25
Administration	262	119	382	16
Combat	12	324	336	14
Logistics	132	152	283	12
Health/Medical	28	131	159	6
Comm/Intelligence	6	137	143	6
Engineering	47	12	59	2
Data Processing	37	20	57	2
Other	50	180	229	9
Total	874	1,599	2,472	100

Many works have identified the historical background of government ownership (i.e., public) based on industrial production, social services, and utilities being linked to a socialist ideological feeling of what constitutes the common good. In fact, some believe that the control of the "public good" only varies based on the government in charge at the time. For example, the differences between the Soviet Union and the United States during the New Deal era might be relative to the amount of control of property within the communist world compared to the United States mixed economies. One author points out that the Tennessee Valley Authority, created at the height of the New Deal, is a prime example of the United States' massive government owned and operated, for the "public good." Regardless of your belief about the institutional development of private enterprise's ability to take over and provide the "public good" type services, the reason for government divestiture remains the same—the reason is money! The reality is that

military budgets have been stricken with the Cold War peace dividend and it is more and more difficult to provide the support required to fight and win.

The budget of the Department of Defense has shifted significantly in the last 30 years. In 1962, the Defense Budget was 9.3 percent of the Gross Domestic Product (GDP). Falling continuously, except for the Vietnam era when it peaked at 9.4 percent in 1968, the Defense budget continues to decline today. Based on the Office of Management and Budget records, today the Defense budget is 3.3 percent of the GDP, almost one-third of what it was 36 years ago.⁵ This greatly reduced budget resulted in the Air Force, as well as all services, pursuing more efficient methods supporting the warfighter while continuing to provide for the force modernization programs it believed were necessary. Competitive sourcing and privatization became the tools of choice for the Air Force. This change was not easy for the Air Force to grow into however. Many years of experience with internal organic support capabilities supported the Air Force through decades of conflict from the Southeast Asia conflict throughout the Cold War. Planning to thwart the rival superpower of the Soviet Union, who was poised on the edge of the Fulda Gap of West Germany, set the stage for massive stockpiles, "push" style logistics, and required close governmental involvement to keep the existing support structure intact and available to respond quickly.⁶ With the end of the Cold War the United States now has a new strategy to build towards.

In keeping with the 1998 United States' National Security Strategy, the Air Force is prepared to protect the nation's interest, wherever and however they are threatened. Today the Air Force is expected to participate in fighting two "near simultaneous major theater wars." The conflicts expected are often described best as "come as you are" wars.

The success expected of and by the Air Force will allow little time for mobilization and production surge capability will have little relevance as success is expected quickly. In fact, Pentagon leaders agree that the era of long, drawn out, wars of attrition are over. Specifically, there is "no need to maintain an extensive, costly capability to 'surge' the production of large platforms such as fighters and warships." Consequently, today's US military is planning for a highly mobile, technology driven battlefield. Input from space sensors driven to the soldier, sailor, airman, or marine coupled with real time information processing capability will make it possible to apply the advanced technological weaponry available. Global engagement will allow the Air Force to insert its forces into the fight across the entire spectrum of conflict to ensure full dominance. Our expectations are that any conflict will be of short duration. Unfortunately, our experience for the last 71/2 years in Saudi Arabia as well as our third year in our "no more than one year" in Bosnia suggest that this may very well not be the case. Consequently long term or short term conflict, today's realities demand innovative solutions for the Air Force to ensure full, timely, and complete support is available to the warfighter.

The Department of Defense, and subsequently the Air Force, have adopted the tools of competitive sourcing and privatization as its primary capability of providing support for deploying warfighters. These tools have been in practice in the modern world since the industrial revolution as private industry began expanding on a wholesale scale. Industry's newly acquired capability and potential for growth coupled with the pursuit of cost effectiveness and efficiency made it a logical choice to takeover "non combat" related activities. In fact, competitive sourcing and privatization today have been heralded by contractors and defense experts alike as the panacea for fixing the

modernization challenge for the Air Force as it heads to the next century. As savings are realized through competitive sourcing and privatization, the monies will be reallocated into the force modernization area to pay for future weapon systems. In light of a 35 percent budget reduction, it only makes sense to pursue the most efficient and cost effective actions. The Air Force, however, must be careful in how it goes about making competitive sourcing and privatization decisions. The danger is it may undermine its ability to perform and sustain critical wartime missions.

Competitive sourcing and privatization involve very detailed and complex procedures to convert from a government function to one conducted or managed by a contractor. This paper will not attempt to elaborate the specifics such that the reader will become an expert on the subject. Because the continued use of competitive sourcing and privatization seems inevitable, it is best to reach a common understanding on the terms as well as the process.

Today the United State's military community commonly refers to competitive sourcing and privatization to describe economic and efficiency studies which typically result in perceived job loss, forced reassignment, and perceived reduced capability. In this effort competitive sourcing and privatization are contracting techniques used for finding the most efficient, often the most effective, way of transferring responsibility for products and/or processes from the military to the private sector. Knowing the process can be helpful when examining where the techniques of competitive sourcing and privatization have been successfully implemented.

Competitive sourcing and Privatization Defined

To the uninitiated, the use of competitive sourcing and privatization as contractual terms may well appear to be redundant. However, understanding the differences can be crucial when determining remedies if the contracts should fail and require the government to cancel the contract. The subsequent remedies available to the government may indeed be different depending on whether competitive sourcing or privatization is involved. The remedies are not the focus of this paper.

The Defense Science Board defines "outsourcing" as the transfer of a support function traditionally performed by an in-house organization to an outside service provider, with the government continuing to provide appropriate oversight. The Board also defines "privatization" as involving not only the contracting out of support functions, but also the complete transfer of facilities, equipment, and other government assets to the private vendor. This can include ownership of the processes to provide goods and services such as technical orders. Additionally, it is important to note that not all military areas are even subject to consideration for competitive sourcing and privatization.

Functions within the military that by definition are commercial activities are "eligible" to be performed by contract. The definition of commercial activity is "...the process resulting in a product or service that is or could be obtained from a private source." Eligibility for contract does not automatically make it a contract candidate or possibly anything the Air Force does could be contracted out including "bombs on target." Specifically, exemptions to commercial activity contracting actions are listed in Appendix 1. The information in Appendix 1 has been extracted from the Office of

Management and Budget Circular A-76. Interestingly, one of the foremost reasons a commercial activity is exempted from contract activities occurs when the function is considered a "core capability." Core capability is defined as:

...a commercial activity operated by a cadre of highly skilled employees, in a specialized technical or scientific development area, to ensure that a minimum capability is maintained [emphasis added]. The core capability does not include the skills, functions or FTE (Full Time Equivalents) that may be retained in-house for reasons of National Defense, including military mobilization, security or rotational necessity [emphasis added], or to patient care or research and development activities...¹¹

As illustrated, National Defense is not a core capability within the A-76 definitions. Alternately, there are other non-commercial activities that are totally exempt from the cost comparison process because they are considered to be an "inherently governmental activity," that is, an organic function of the federal government. Typically, they are functions which require government employees to perform because of the stewardship responsibility of taxpayers' dollars. Contracting officers or government auditors are classical examples of areas that have traditionally been considered inherently governmental. Competitive sourcing and privatization efforts have begun to erode even these traditional governmental roles. Most recently the District of Colombia outsourced their contracting office to maximize its effectiveness and improve efficiency throughout their contracting operations. The Secretary of Defense as well as all of the Service Secretaries and Service Chiefs have endorsed competitive sourcing and privatization as the right way to do business considering the austere budget they face. An examination of the application of these tools is warranted especially where they have been successful.

Notes

- ¹ Philpott, Tom, "Our Forces Future: An Interview With Secretary of Defense William S. Cohen," *The Retired Officer Magazine*, October 1998.
- ² Weibel, Jack, "Cohen Exhorts Privatization Panel," *Air Force Times*, 27 October 1997, p. 4.
- ³ Jacques S. Gansler, *Modernization Hinges on Acquisition Reform, Outsourcing, Industry Rehab.*, National Defense, January 1997, p. 20.
- ⁴ Deavel, R. Phillip, *The Political Economy of Privatization: Its Impact on the American Military*, Air University, April 1998
 - ⁵ Mehuron, Tamar A., ed., "USAF Almanac," *Air Force Magazine*, May 1998, p. 37.
- ⁶ "Improving the Combat Edge Through Outsourcing," *Defense Issues*, Vol 11, No 30, p. 1.
- ⁷ Tirpak, John A., "the Distillation of the Defense Industry," *Air Force Magazine*, July 1998, p.54.
 - ⁸ Philpott, Tom, p.5.
- ⁹ "Outsourcing and Privatization," *Defense Science Board Task Force*, Office of the Under Secretary of Defense for Acquisition and Technology, August 1996, p. 7A.
- ¹⁰ Office of Management and Budget, Circular A-76 Revised Supplemental Handbook, Performance of Commercial Activities, March 1996.
 - ¹¹ Ibid., p.35.
 - 12 Contracting Magazine.

Chapter 2

Competitive sourcing and Privatization: A Winning Game?

Private Enterprise: Consists of harnessing men, money, and ideas and the genius of inventors and the technologists with the savings of the thousands.

-Malcom Muir

Firmly rooted in the Department of Defense culture and echoed by senior leaders within the Air Force, competitive sourcing and privatization have become the recognized tool for effectiveness and efficiency. These techniques have shown the potential to offer huge savings. In the last ten to twenty years American business has set the business world on its ear through reorganization techniques, corporate restructuring, and revolutionary management and new business activities. These actions were taken to ensure American business survival and to foster its competitive edge in the global marketplace. This has been a huge success story for American business. Additionally, today America's economy and productivity is at a record high.¹

The Department of Defense is on the fast track to adopt and adapt the lessons learned and apply them to America's Armed Forces. In today's fiscally constrained world, the premise is that adoption of the best business practices through competitive sourcing and privatization is required if we are to maintain the competitive edge in the rapidly changing global security arena.

As post-Cold War budgets began to shrink, the Pentagon's initiative to outsource more and more work to contractors was favored by everyone. In fact, all services were in favor of this innovative program primarily because all services had more work requirements than resources to accomplish the requirement. At the time it seemed that contract dollars were always more available than additional people to perform the work needed. The push to save budgets and to contract out more work was exacerbated during the cyclical personnel drawdown. Many organizations were lured into the "Catch-22a" of contracting out services because there were insufficient personnel to do the work. Subsequently the organizations would lose those same vacant manpower billets because of continuing force reductions. Unfortunately the workload seldom decreased because there were fewer personnel. If anything, individual workloads increased because mission requirements did not decrease as quickly as people vacated the service. Caught in this spiraling deflation of the workforce usually changed the minds of senior leaders about how great the program really was. Commanders became very smart quickly and learned not to contract out critical areas that required military expertise. Working through the A-76 process, the services began to reap the benefits of competitive sourcing many which did not require military personnel such as grounds and housing maintenance. The savings resulting from these A-76 competitions were significant and had a special appeal to all the services—especially in light of declining Defense budgets.

In 1995 the Defense Department proposed to maximize competitive sourcing throughout all services to maximize efficiency as well as reduce the cost of doing business. The resulting economic windfall would be pumped back into the weapon system modernization programs. The concept proposed was that the military services

would implement proven "best business practices" in everything possible while focusing on the core operations defined previously. All other applicable support functions would be contracted out wherever possible. The significant appeal of this process is that it allows the services to concentrate on those "core" activities—those truly unique and vital to the organization. By contracting out all other routine but important functions such as transportation, grounds maintenance, payroll, inventory management, and routine maintenance allows management to concentrate on improving quality, responsiveness, efficiency and effectiveness with the remaining workforce. In addition, cost savings for all services have been significant and expected to grow.²

Table 2. Savings From A-76 Competitive Competitions, 1978-94

Service	Competitions Completed	Total Annual Savings (FY 1996 \$ millions)	Percent Savings		
Army	510	\$ 470	27		
Air Force	orce 733 :		36		
Marine Corps	39	23	34		
Navy	806	411	30		
DOD Agencies	DD Agencies 50 13		28		
Total	2,138	\$1,478	31		

The Air Force has been an active outsourcer and has reaped the benefits of its aggressive efforts saving \$560 million annually. For all of the Defense Department, the projections on savings resulting from competitive sourcing and privatization is between \$7 to \$12 billion annually by fiscal year 2002.³ This growth in savings extends to the

other services also. For example, Air Force officials estimate that Air Force savings will exceed \$600 million each year between now and the year 2002. In light of diminishing budgets and the stated need for modernization of weapon systems, the savings from competitive sourcing and privatization will be useful as these bills come due. Estimates for total Defense Department modernization are expected to be about \$60 to \$80 billion dollars over the next decade. While other measures such as base closings, civilian personnel reductions, and Defense mergers may be needed to secure the full amount needed, it appears certain that competitive sourcing and privatization are expected to play a primary role in cost reduction. An important aspect to consider however, is the overall impact competitive sourcing and privatization has had on the Department of Defense. Too often we have learned too late that economics are not, and should not, be the overriding factor in making decisions. The human factor is significant and should not be ignored.

The human factor and its effect on military readiness is hard to quantify. Certainly it is recognizable that readiness is directly related to the person as seen in the military's Status of Resources and Training Systems (SORTS) report. The availability of trained personnel are a portion of the overall "scorecard" that the SORTS report provides the commander, higher headquarters, and on an operational level, the members of the Joint Staff. Unfortunately, it is much harder to assess an airman's morale or commitment to the nation's causes than it is to measure end strength, maintenance rates and operations tempo (OPSTEMPO). In a world of ever-changing priorities, fluid world events and increasing OPSTEMPO, not much attention has been given to the effect of competitive sourcing and privatization on the service member. Reviewing private enterprise's efforts

in this area may help identify the little known effects that may occur because of competitive sourcing and privatization.

Research reveals that corporate private enterprise has done a much better job at downsizing than the government. Some interesting observations appear to be applicable to both the private sector as well as members of the all volunteer Air Force who are affected by privatization and competitive sourcing, both military and civilian. The goals for the military, "not-for-profit organization," are often similar to that of private industry. For example, the Air Force seeks to recruit and retain high-quality people as private industry does. Modernization of weapon systems to maximize operations and increase personnel productivity is high on the menu today also. The United States' ability to maintain a technological edge over the competition while increasing efficiency and reducing costs overall are all vital to maintaining today's Air Force.⁷ The impact of the Air Force's reduction in force program in 1991, the incentives to leave the service through the early retirement programs, and other so called "early out" activities is well documented on how quickly we achieved the force reduction goals. What is not as well documented is the impact on those that remained and "survived" it all. Based on private sector research, problems within the Air Force may yet to be identified.

It is very easy to quantify factors that contribute to OPSTEMPO and Personnel tempo (PERSTEMPO). End strengths, maintenance rates, sortic generation capability, budgets, retention rates, and reenlistment figures are all measurable and useful factors. The more difficult measurement is a member's morale or commitment to national causes. Corporate America has shown the military the way ahead. In fact, "best business practices" is touted as what the military must do to survive in a "zero-sum" budget game.

But what exactly has the private sector learned from its reorganizations and what lessons should the military apply to its own efforts?

Private industry has taught us that by eliminating positions, organizations have the potential to achieve substantial savings in salaries, retirement and social benefits, as well as related overhead costs associated with larger organizations. While business has led the field in downsizing reality has not kept pace with expectations. It appears that in many cases, labor force cuts have reduced productivity and actually failed to achieve forecasted savings. Of 531 companies surveyed in 1993 the following facts were garnered:

- 58 percent hoped to achieve higher productivity; only 34 percent were successful
- 61 percent strove to improve customer service; only 33 percent succeeded

Further, if force reductions were conducted with the goals of increased productivity and high-quality retention, the studies indicated it was effective in less than half the companies surveyed. It was fortunate that America's Armed Forces reduction brought on by the Cold War and subsequent downsizing or "right sizing" programs only sought to save money, if quality people remained it was primarily by chance. The casualties of these reduction programs were not just the emotional casualties who were asked to leave the service of their country but also the "survivors" who remained. Not only has productivity of the services been compromised, ever-increasing numbers and types of missions, continual demands to produce in a "do more with less" environment has led to increasingly stressful lives for all involved. For example, in 1998 the Navy reported a 7,200 recruitment shortfall while the Air Force has had less than a 20 percent success rate in the area of pilot retention. Marines are now deploying once every five weeks compared to once every 15 weeks just 10 years ago. According to Major General Charles R. Henderson, Deputy Chief of Staff for Air and Space Operations, the Air Force is

deployed more than twice as often now as in 1989. Additionally, non-deployed soldiers, sailors, and airmen are working longer hours to make up the difference. According to a senior Pentagon official, the Air Force is trying to keep almost every squadron ready for any contingency anywhere –" Its killing them."

Stress and uncertainty do indeed take their toll. Whether private sector or government worker, military or civilian, the effects are real. Burned out bosses worn down by mission creep coupled with the stress of telling employees they are no longer needed after years of faithful service affect middle managers across the board. In the private sector studied, one of every 20 employee was a middle manager yet one of every five workers laid off was a middle manager. By comparison the Air Force lost at least 25 percent of the officer corps through their drawdown programs. The obvious emotional toll experienced by people let go is but one facet—depression, anger, and a sense of betrayal. Those remaining are often struck with cynicism and loyalty to the "greater good" is often the first intangible to be destroyed. Customer surveys indicate that a dissatisfied customer will often tell 100 people about the poor treatment they received while good service will seldom be told to more than 10 people. 10 More critically in today's expanding OPSTEMPO are the effects of reduced morale and an inclination of members to avoid risks and initiative-taking from which failure could lead to a "discriminator" to be used when the next round of force reductions occur. "avoidance factor" also includes reluctance to suggesting ideas that may make the organization more efficient. As the Air Force enters the latest round of "force shaping" it becomes critical that "best practices" are carefully considered using evaluation criteria besides solely the economical one.¹¹

Competitive sourcing and privatization offer inherent efficiencies to the Air Force as well as the entire Defense Department. Best business practices must become the rule rather than the exception for the limited budget to allow for future force modernization deemed necessary by current Air Force leaders. The question becomes has industry pursued these same best business practices to the point that their capability to support national defense has been negatively affected?

Notes

¹ Cohen, William S., *Defense Reform Initiative: The Business Strategy for Defense in the 21st Century.* Washington, DC, Department of Defense, 1997, p.1.

² Chapman, Susan. *The Push to Privatize*, Air Force Magazine, August 1996, p. 67.

³ United States Department of Defense, Office of the Undersecretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Outsourcing and Privatization*, April 1996, p. 1A.

⁴ Chapman, p.68.

- ⁵ Jacques S. Gansler, *Modernization Hinges on Acquisition Reform, Outsourcing, Industry Rehab.*, National Defense (January 1997), p. 20-22.
- ⁶ Eric C. Ludvigsen, "Army Takes the Brunt of '91 Budget Cuts," Army Magazine (March 1990), p. 14-20.
 - ⁷ Ibid., p. 18.
- ⁸ Robert B. Reich, *Of Butchers and Bakers*, Vital Speeches of the Day (8 October 1993), p. 100-102.
- Tom Philpott, *Back on the Edge*, The Retired Officers Magazine (January 1999), p. 52-60.
- Jim Tice and Bernard Adelsberger, 16 Months and Counting, Army Times (15 May 1995), p. 12-14.
 Message, R111172 Z May 98; HQ USAF/DP, Subject: Moving From Military
- ¹¹ Message, R111172 Z May 98; HQ USAF/DP, Subject: Moving From Military Drawdowns to Force Shaping.

Chapter 3

The Defense Industry: A Bridge to Far?

Business: A battle where everything goes, where the only gospel is "get ahead" and never spare friends or foes.

—Adapted from Berton Braley

The last ten to twelve years have seen a drastic reduction in both the Defense Department as well as the defense industry that supports it. As the Pentagon budgets plummet, defense contractors have been jumping ship for better waters or they have sought merger options that allow themselves to compete for the remaining limited US defense procurement programs. While most recent trends towards competitive sourcing and privatization have opened up new areas for contractor involvement, most of the true, "hard core," warfighting industry members have all but disappeared. Matching the recent decline of the Armed Forces since the end of the Cold War, civilian employment in the defense industry has plummeted by more than 2 million workers—at its peak this rate was measured at 1,000 jobs per day. Gone are the days of Rockwell International, Goodyear Aerospace, General Dynamics Space Business, Hughes Aircraft, Grumman, or even McDonnell Douglas as leaders in the defense aerospace combat capability and combat support capability for the nation. These long respected names have either disappeared completely or become absorbed as mere divisions in a new era of mega-giant contractors. Defense Department leaders are not concerned about this radical shift; rather they contend that these shifts in the US defense industrial technological capability have been neither disastrous nor avoidable. In fact, they see this shrinkage of capability over the last decade as a realistic and necessary response to the changing world similar to what the active duty force has undergone.² The military industrial complex that Senator McCarthy warned the nation about in the early 1960's is gone and with it the capability to mass-produce weapon systems and necessary support items.

The reductions in the defense industry occurred at a time the Defense Department was struggling with force structure changes and future requirements resulting from the collapse of the Berlin Wall and to some the elimination of any global threat to the United States. The assured position of the US as the world's only super power helped develop a consensus that the potential for a long drawn out military engagement was essentially non-existent. Essentially, "the surge capability needed for aircraft, ships, and tanks during World War II, ...will not be needed in the 21st century." The primary difference today is that we expect to surge the "expendables" such as munitions, spare parts, maintenance items such as filters, hoses, and the like. There is agreement that some sort of standby capability for those items is needed. These type of expendables are envisioned to be available "through an integrated civil-military production line so the Pentagon doesn't have to pay "for...excess capacity sitting around waiting for a surge requirement."⁴ This surge capability however is anything but guaranteed. For example, today's big five in the aerospace industry—Lockheed Martin, The Boeing Company, Northrop Grumman, Raytheon, and Litton—are all that is left of the 51 companies that existed some 14 years ago. These big five are ranked one, two, three, five, and nine respectively in the defense contracting market as of 1997. These former heavyweight defense contractors now have virtual control over all defense procurement dollars. Additionally, each of these have downsized, conducted competitive sourcing, and taken serious privatization actions to remain competitive within their own fields. Recently one of those corporate economical moves which bodes good for the company was viewed by government sources, the Justice Department and Defense Department, as creating a virtual monopoly. The biggest concern voiced by government was not that the company merger of Lockheed Martin and Northrop Grumman would be too big but that innovation could suffer and put military lives in danger.⁵ The area of specific concern was that of electronic warfare. The argument being that when a company has its own in-house capabilities, down to second and third level suppliers, competition may become non existent. When competition is limited costs can be expected to rise significantly. This vertical integration, as it is called, can be found across the Defense Department sector as shown in Table 3.

Table 3. Vertical Integration in Aircraft Sector: Current Capabilities (1998)6

Sector	Lockheed	Northrop	Boeing	Raytheon	Litton	ITT	Tracor
	Martin	Grumman					
Platform	X	X	X				
Systems Integration	X	X	X	X			
Radar Airborne Early Warning Airborne Fire Control Surveillance Imaging	X X X	X X X X		X X X			
Electronic Warfare RFCM IRCM EOMWS	X X X	X X X		X	X	X	X

Ultimately, critics complain that facing zero competition the company has no incentive to get better, to innovate or to keep costs low. Ironically the ultimate point in

consolidation, as seen in both the private sector as well as government, is a monopoly. Unfortunately, these "right sizing" actions may be more economical when providing weapon systems and expendables but they do not address the surge and sustainment capability required if and when the US becomes engaged in a situation that requires lengthy application of warfighting capability. In fact, former Lockheed Martin chief, Norman Augustine first identified the concern over vertical integration to the Pentagon. Augustine warned there were signs that some of the mega-companies were pursuing the "shut out route" to minimize competition. The likely result will be self-defensive reactions that will potentially propagate cutthroat business techniques and, subsequently, damage the opportunity for competition as well as limit the number of available suppliers for critical combat capability items. To circumvent this concern, Pentagon officials closely examine each potential merger within the industry to ensure it does not adversely affect competition. "The rule that encourages efficiency through consolidation is still the basic policy of the Defense and Justice Departments. We will continue to encourage consolidation where there's excess capacity and competition can be maintained." Unfortunately, the support side of the defense industry has not enjoyed all wins either.

Far from producing positive experiences for the recipients, the largest example of competitive sourcing and privatization is one that has led to an immediate and tangible *decrease* in the level of support services. The culprit in review is the competitive sourcing of medical care for dependents through the Tricare, or as some refer to it "Try to get care," program. Whether the frustration of a new situation was completely justified, perception was reality for many Tricare recipients. Fully castigated as a "breech of faith"

with our military community, Tricare has not been held up as the shining light of competitive efforts.

If providing day-to-day medical support, something available from medical systems across the country is so difficult, do we dare hope that the profit oriented defense industry businesses can or will provide any better support when the military's capability to fight, sustain, and win our nation's wars is on the line?

The defense industry has been reshaped over the last fifty years since World War II. First expanding tremendously to support the strategic defense systems of the country and subsequently the Cold War machines viewed as necessary to defeat the Soviet threat. The defense industry since the Cold War has been restructured through technology changes as well as declining demands in the form of the traditional peace dividend. Efficiencies in technology production as well as perceived defense equipment requirements now lead us to believe that the defense production capability of today will be sufficient for the Air Force's needs. A further examination of this premise is warranted.

Notes

¹ John A. Tirpak, *The Distillation of the Defense Industry*, Air Force Magazine, (July 1998), p. 54.

² Ibid., p. 55.

³ Ibid., p.58.

⁴ Ibid., p. 58.

⁵ Defense Base Forecast-Industry, *Pentagon Opposes Proposed Lockheed Martin-Northrop Grumman Merger*, National DEFENSE (May/June 1998), p. 7.

⁶ John A. Tirpak, p. 57.

⁷ Jacques S. Gansler, *Pentagon Procurement Chief Wants Competition in Critical Areas*, National DEFENSE (May/June 1998), p. 10.

Chapter 4

The Future is Now

The greatest plague that can afflict humanity; it destroys religion ... states ... families. Any scourge is preferable to it.

—Martin Luther on war

Forget about a surge. The savings achieved by competitive sourcing and privatization expected by the Department of Defense is founded in the belief that the practice of maintaining manufacturing capability for the sake of being able to "surge" to a wartime production rate is no longer needed. Most defense experts agree with this assessment. There does not appear to be any country, government, or entity that is currently able or willing to stand up and take on the United States. So what is it we are preparing for? What vision has the Air Force structured itself for and where are we going next?

Joint Vision 2010, orchestrated by General Shalikashili, former chairman of the Joint Chiefs of Staff, is the blueprint for the development of weapons and ultimately the force structure to deploy them. Based on the results of the 1997 Quadrennial Defense Review (QDR), the requirements as outlined in the President's national security strategy, are "to be able to deter and defeat large-scale, cross-border aggression in two distant theaters in overlapping time frames." The usual scenario is one that halts the enemy, builds up US forces and after approximately 45 days supports a US counteroffensive. During the end

of this scenario the obvious intent is that the US will pack up its initial "halting capability" force, drive halfway around the world and do it again. It might just work out that way but as retention levels of Air Force pilots plummet, the direct combat capability of the Air Force may well be seriously affected. Senior military leaders believe that the forward-deployed forces are in good combat readiness as are the "first to fight" forces.² Unfortunately, the follow-on forces, the ones that will take somewhere around 30 days before they can engage, are not that healthy.³ The services don't have all the people they need and the follow-on forces have a lower priority for filling shortages. These shortages subsequently affect training opportunities and the readiness reporting reflected in the SORTS report. Additionally, the Air Force is especially noticing depot maintenance and a spare parts availability dilemma as seen in Figure 1. All of the services have seen a steady increase in the numbers of weapon systems and major parts that are waiting repair through depot maintenance. According to Senator McCain, of the Senate Armed Services Committee, the Department of Defense's backlog has grown steadily from \$420 million in 1991 to over \$1.6 billion currently. The Air Force share of this backlog is expected to exceed \$320 million in Fiscal Year 1999. These problems are particularly significant in ground communications, the special purpose vehicle fleet, readiness spare packages, and component repair. These backlogs ultimately affect the mission capable rates for all aircraft.

Unfunded USAF Depot Maintenance (in \$ millions)

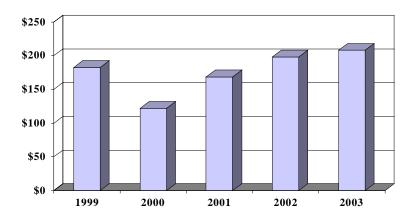


Figure 1⁴. Unfunded USAF Depot Maintenance

During any conflict, unexpected, possibly minor problems can quickly escalate into ones with severe repercussions. For example, Senator McCain's staff received information about the F-15Es stationed in Britain that remained at a "low state of readiness" for over a year because of a depot problem with their engines.⁵ The question for the recipient of competitive sourcing and privatization will be "Is it any better because management has changed?" Other key areas affecting the success of military operations can be adversely affected by privatization efforts.

Unfunded USAF Spares Requirements (in millions)

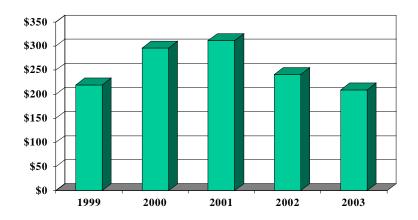


Figure 2⁶. Unfunded USAF Spares Requreiments

Routine spare parts needed to fly are not available for most of the Air Force's fleet and the shortage continues to grow as shown in Figure 2. Despite the Chiefs of Staff of all services proclaiming that the forces can still carry out the mission, albeit marginally in some cases⁷, the lack of spare parts continues to grow and is expected to peak in 2001 at slightly more than \$300 million for just the Air Force. If the air fleet was being used less, because we have downsized the Air Force by almost 35 percent, we could make the argument that the fewer spare parts and associated funding lines could be worked. However, due to the high OPSTEMPO, airframes are in higher demand than ever. The Air Force today handles an OPSTEMPO four times greater than it experienced during the Cold War. There is no evidence to suggest that competitive sourcing or privatization of the spare parts business significantly reduce the backlog we face today? Senior leaders

today are not, and have not been, ignoring spare parts because they have frivolously spent the bank elsewhere.

A recognized necessary factor for the US to quickly fight and win any conflict in the future is the ability to strike swiftly, at great distances, and with lethal power projection. The piece that seems to be missing today is the lethal projection—or rather a *sustained* lethal power projection. Not unique to the Air Force, the Navy has indicated concern over low stocks of precision guided munitions (PGM), significantly the Tomahawk Block III missile. Inventories are currently such that some naval units only receive one training missile each year—one!⁸ Interestingly enough, the October 1998 launching of 78 Tomahawk missiles seeking to destroy the terrorists training camp in Afghanistan was effective and efficient—at least in the sense that no American military lives were put in danger as they would have been if manned aircraft had been used. Those 78 missiles reflect the equivalent of approximately five years of training for all submariners in today's Navy.

The Air Force faces the same basic concerns. According to General Ryan, Chief of Staff of the Air Force, "we lived off the surplus from the 40 percent drawdown of our forces in the early '90s." Although we have redefined our stocks on hand to be adequate, today funding for munitions, and other necessary combat support items, is no longer adequate. While there may be iron "dumb" bombs in large quantities out there somewhere, in fact the weapon of choice is the PGM. Fewer airframes equate to fewer striking platforms which suggests that fewer munitions must be used to hit targets more accurately and with less collateral damage than in any conflict seen before. Unfortunately, industry sources indicate that to generate a PGM production line takes

approximately two to three years to begin new assembly. Excessive privatization and competitive sourcing in this arena is doubtful because of limited competition. Nor are great savings expected because of the solely military nature of the end product. Experience has shown that in many cases competitive sourcing and privatization does not always result in better or cheaper.

The Air Force continues to rush towards increased competitive sourcing and privatization as the panacea to resolve insufficient funding for modernization, critical spare part shortfalls, and increasing deferred depot maintenance. Future defense actions must use a balanced approach to using competitive sourcing and privatization. Based on the current strategy of having a force structure sufficient to fight and win two major theater wars nearly simultaneously and given the Air Force will have to depend on a decreased industrial base presents a unique challenge to the warfighter as well as his support structure. As will be seen in the final chapter there are many cases where competitive sourcing and privatization not only *do not* save money, costs actually increased while services decreased.

Notes

¹A National Security Strategy For a New Century, October 1998, p. 22.

² Tom Philpott, *Back on the Edge*, The Retired Officer Magazine, (January 1999), p. 54.

³ Tom Philpott, *A Position of Strength*, The Retired Officer Magazine, (December 1998), p. 60.

Peter Grier, *Readiness on the Line*, Air Force Magazine, (December 1998), p. 38.

⁵ Ibid., p. 40.

⁶ Ibid., p. 40.

⁷ Tom Philpott, *Back on the Edge*, The Retired Officer Magazine, (January 1999), p. 54-55.

⁸ Peter Grier, p. 39.

⁹ Ibid.

Chapter 5

Summary

We must not cease from exploration and the end of all exploring will be to arrive where we began and to know the place for the first time.

—T. S. Elliot

A primary theme behind the privatization bandwagon is that there is increased value, that is savings, to the American taxpayer. The corollary to this is that private industry, driven by the profit margin and regulated by market forces, can perform more effectively, more efficiently, at lower cost, and faster than the military machine. Based on this premise, we should expect government agencies that primarily depend on contractors will function effectively, be more efficient, and operate within or below budget. Unfortunately this is not the case. For example, the Department of Energy (DOE), which relies heavily, approximately 80 to 90 percent of its budget, on the private sector has failed miserably—and not because of inexperienced contractors. Industry giants such as Martin Marietta and General Electric have been the recipients of DOEs contracting efforts. A slim organization by some standards, DOE employs only 20,000 civil servants while its contractors employ approximately seven to ten times that number. Although the total numbers employed are debatable by the employers, what is not debated is that the DOE contractors have a miserable record. For example the Rocky Flats Arsenal in Colorado that produced plutonium triggers for hydrogen bombs is a case in point.

Rockwell International, one of the major contractors, poured toxic and radioactive waste into the ground and stored more illegally in drums. Part of the problem according to the 1991 DOE inspector general report was that the government's attitude was to let Rockwell run the show. This was recommended since Rockwell employed professionals and had the contract to dispose of the material correctly. Unfortunately, it gets worse. DOE also used the Rockwell polluter's to clean up the same mess they made and paid them handsomely, \$27 million, to do it. But again Rockwell didn't do it quite right so now the General Accounting Office estimates clean up will take to 2009 at an additional cost of \$170 million. What had DOE done wrong to receive this performance by Rockwell? It turns out DOE did everything correct—the contractor did not perform as expected. While there may have been other contractors capable of performing the work, the market driven response by DOE during the 1986 to 1988 years when Rockwell's performance was poor—the company received a rating of 90 out of 100. Additionally, based on these ratings Rockwell received more than \$25 million in bonuses.² The circumstances at Rocky Flats and other locations are not unusual for DOE. In fact, DOE attributes most of their problems have occurred when the government contracts out. The lack of qualified managers—"or sheer incompetence"—often leads to a surrender of authority to the remaining administrative shell attempting to integrate, consolidate, and provide "adult supervision" over a vast sea of contractors. Ultimately, decisions that should be in the hands of the people's representatives, i.e. government employees, those whom have the "core expertise" discussed earlier end up in the hands of hired guns.

Similar abuse of contracts can be found not only in DOE but also in the EPA Superfund cleanup efforts. Profit oriented contractors decided which sites to clean up,

how to clean them and even identified what "clean" would be. Interestingly enough, contractors drafted the EPA regulations, trained other contractors, and even evaluated other contractors performance—primarily because the federal government didn't have the qualified personnel, or expertise to do it itself. The ability to develop and maintain the key organic technical competence needed is often lacking for many government agencies. Often times the "governing contractors" were working for the same contractor they were evaluating. These rampant cases of abuse are also prevalent in the Defense Department. For example, Mr. Ganzler, Defense Undersecretary for Acquisition and Technology, believes that Pentagon contracts for goods it may not need is healthy even just to keep the industrial base available—and he is not alone. Former Defense Secretary William Perry, for example, ordered a third \$2.3 billion Seawolf submarine built because shutting down the production line and reopening it later was far more expensive than the cost of the submarine.³

The difficulty appears to be not that contractors are bad but rather the government does not have the incentive to streamline and seek out efficiencies in the application of war. Unfortunately, the budget of today is forcing us to seek out contractors to provide us the tools for war. Contractors who are driven to the "bottom line" too often see the government as a bottomless pit of money and resources. Left to their own devices, and lack of qualified government expertise, contractors will push for more and more. Many examples throughout DOD abound. Food service and maintenance and repair provided to the Army was "low balled" by the contractor and cost the military more than \$600,000 than if retained in-house; at Fort Sill, Oklahoma, the contractor exceeded his "cost plus" contract bid by \$14.8 million.⁴ The sad part is that when the government agency takes a

stand to reject the contractor's performance, it is usually too late to revert back to government in-house workforce. Ultimately service suffers, the desired end state contracted for does not happen, and often temporary employees must be hired to perform the work on a "temporary" basis until the contract can be reworked. Subsequently, a workforce that is already overworked and undermanned must now provide the required management oversight. This added stress becomes even more critical when viewed with the OPSTEMPO of the military today.

The DOE and EPA examples are evidence that increased management is needed in some agencies. But consider the horrific explosion of the Space Shuttle Challenger. That disaster was caused by a deficient "O-ring" seal made by a contractor. The contractor knew there were problems and knew the outcome if problems occurred. In fact, NASA knew there was the "potential" of a problem. No one was willing to take responsibility and make things right. Imagine in retrospect of the Challenger disaster, the thousands of American sons and daughters whose lives could be at risk if privatization and competitive sourcing were extended into our combat support systems to the point where no one is willing to take responsibility when something was potentially deadly wrong. For example, who within a profit oriented industry will ensure the parts are available to "fly" the weapon, protect the member in the field, or to re-arm the aircraft conducting a second strike to ensure victory. Ultimately, it must be the "not for profit" organization of the military service organization who have no other interest except serving the nation and protecting the men and women who serve with them.

Privatization and competitive sourcing have been portrayed as promising significant savings in money and equipment. The Air Force plans to provide these savings to its

modernization effort. In some cases the Air Force has already "spent" these savings. Unfortunately, the 1997 GAO report on outsourcing Defense Department logistics says projected savings are overstated by almost two-thirds. Specifically, the annual savings were estimated to be \$6 billion and now the GAO says errors in estimates, overly optimistic savings assumptions, and legal and cultural impediments will limit the savings to approximately \$2 billion. Although still significant, it becomes quickly obvious there will still not be enough to modernize as quickly as expected. The Chairman of the Joint Chiefs in concert with the Service Secretaries has voiced their concerns. Their voice has been heard and is being heeded by some lawmakers. The current estimate is that it will take as much as \$90 billion over the five-year defense plan. While significant, this planned funding increase will not stop the competitive sourcing and privatization wagon.

The key to the entire competitive sourcing analysis is not to lose sight of what it takes to fight and win our nations' wars. Winning is about initial response, build up, and sustainment during counterattack operations—no matter how long it takes. Considering we have been flying circles in the desert for the last eight years as well as dealing with Bosnia for the last three—there is no end in sight today. The depot maintenance difficulty coupled with the backlog of parts, mission capability trends as well as dwindling personnel retention continued sustainment could come with a higher cost than expected. The impacts of privatization and competitive sourcing are just now beginning to show. The cost of putting the fate of America's military success into the hands of industry whose bottom line is the profit margin is not the foundation America's future security should be built upon.

Notes

¹Joshua Wolf Shenk, *The Perils of Privatization*, The Washington Monthly, (May 1995), p. 17.

²Ibid., p. 18. ³Ibid., p. 19.

⁴Ibid., p. 20. ⁵ NSIAD-98-48, Dec. 1997. Outsourcing DOD Logistics: Savings Achievable but Defense Science Board's Projects are Overstated.

6 Tom Philpott, Back on the Edge, The Retired Officer Magazine, (January 1999), p.

^{54.}

Appendix A

Conditions Permitting Government Performance of Commercial Activities

- 1. National Defense or Intelligence Security. The Secretary of Defense, or designee, approves national defense justifications. The Director of Central Intelligence, or designee, approves national security justifications.
- 2. *Patient Care*. Commercial activities at Government-owned hospitals or other health facilities may be performed by the in-house, ISSA or contract employees when needed to maintain the quality of direct patient care.
- 3. *Core Capability*. A core capability of in-house and contract resources may be warranted for certain functional areas.
- 4. *Research and Development*. Research and development activities may be converted to or from in-house, contract or ISSA without cost comparison. Severable support activities are subject to the cost comparison provisions of this Supplement.
- 5. No Satisfactory Commercial Source Available. Agencies will solicit private sector interest and certify that the solicitation did not restrict or otherwise limit competition.
- 6. Functions With 10 or Fewer FTE. May be converted to or from inhouse, contract or ISSA, without a cost comparison, if the contracting officer determines that reasonable prices cannot otherwise be obtained.
- 7. Meet Performance Standard. Agencies may demonstrate that the activity meets or exceeds generally recognized industry cost and performance standards, after all adjustments required by this Supplement.
- 8. *Lower Cost.* Results of a cost comparison demonstrate that in-house performance is less costly.

9. *Temporary Authorization*. Temporary emergency performance may be warranted not to exceed the next full contract option year.

Conditions Permitting Contract Performance of Commercial Activities

- 1. *Contracted Activities*. Should be obtained by contract, unless a cost comparison demonstrates that in-house or ISSA performance is more cost effective.
- 2. *New Requirement*. Should be obtained by contract, unless contract quality or price appear unreasonable. A cost comparison is performed to convert the activity to in-house or ISSA performance.
- 3. Severable Expansions. Same as above.
- 4. *ISSAs*. Commercial activities should not be performed through new or expanded ISSAs, except as provided by law or this supplement.
- 5. Activities With 10 or Fewer FTE. May be converted to or from inhouse, contract or ISSA, without a cost comparison.
- 6. Activities with 11 or More FTE. May be converted to contract or ISSA, without cost comparison, if fair and reasonable contract prices can be obtained by competitive award and all directly affected Federal employees on permanent appointments can be reassigned to other Federal positions.
- 7. Activities Performed by the Military. Activities performed by military (uniformed) personnel may be converted to contract without cost comparison. Military positions included in cost comparisons are cost at the composite rates provided by the DOD or other appropriate agency Controller.
- 8. *Preferential Procurement Programs*. Contract performance may be granted, without cost comparison, if the contract is awarded to a preferential procurement program.
- 9. *Lower Cost.* Conversion to contract is required if a cost comparison indicates that contract performance is the lower cost alternative. ¹

Notes

¹ Extracted from Office of Management and Budget, *Circular A-76 Revised Supplemental Handbook, Performance of Commercial Activities*, March 1996, p 7.

Bibliography

- Brower, Michael J., "Outland: The Vogue of DOD Outsourcing and Privatization," *Acquisition Review Quarterly*, Fall 1997.
- Chapman, Suzann, "The Push to Privatize," Air Force Magazine, August 1996.
- Erwin, Sandra I., "NASA Privatization Initiative Could be Too Much of a Good Thing," *National Defense*, April 1998.
- Gansler, Jacques S., "Modernization Hinges on Acquisition Reform, Outsourcing, Industry Rehab.," *National Defense*, January 1997.
- General Accounting Office report (NSIAD-98-48), "Outsourcing DOD Logistics: Savings Achievable But Defense Science Board's Projections Are Overstated," December 8, 1997.
- Grier, Peter, "Readiness on the line," Air Force Magazine, December 1998.
- "Improving the Combat Edge Through Outsourcing," DTIC Report # 19961002 032, March 1996.
- Kinsella, Mary E. and Heberling, Michael E., "Army, Air Force Seek Commercial Solutions to Cut Acquisition Costs," *National Defense*, February 1998.
- Muczyk, Jan P., "Generating Needed Modernization Funds," *Acquisition Review Quarterly*, Summer 1998.
- Office of Management and Budget, Circular A-76 Revised Supplemental Handbook, Performance of Commercial Activities, March 1996.
- "Pentagon Procurement Chief Wants Competition in Critical Areas," *National Defense*, May/June 1998.Philpott, Tom, "A Position of Strength," *The Retired Officer Magazine*, December 1998.
- Philpott, Tom, "Back to the Edge," The Retired Officer Magazine, January 1999
- Roos, John G. and Goodman, Glenn W. Jr., "Marching Toward Joint Vision 2010," *Armed Forces Journal International*, April 1998.
- Shenk, Joshua Wolf, "The Perils of Privatization," The Washington Monthly, May 1995.
- Tirpak, John A., "The Distillation of the Defense Industry," *Air Force Magazine*, July 1998.
- United States Department of Defense, Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Outsourcing and Privatization*, August 1996.
- United States Department of Defense, Office of the Secretary, "Defense Reform Initiative," 1997.
- Wells, Rita L., "Contracting Readiness: Timely Support for Military Operations," *Acquisition Review Quarterly*, Winter 1995.

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